AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-10 (Canceled).

11. (New) A computer-implemented method of generating class models from video sequences having one of a plurality of predetermined classes, said video sequences comprising a plurality of video and audio frames, wherein said method comprises, for each of the plurality of predetermined classes:

(i) extracting by a feature extraction module a plurality of sets of characteristic visual feature vectors and a plurality of sets of characteristic audio feature vectors from respective video and audio portions of a training set comprising a plurality of video sequences belonging to a predetermined class;

(ii) combining by a feature binder the plurality of sets of characteristic visual and audio feature vectors into a respective plurality of *N*-dimensional feature vectors corresponding to the predetermined class, said combining comprising normalizing and concatenating each of the visual feature vectors with corresponding audio feature vectors;

(iii) analysing by a feature learning module the pluralities of *N*-dimensional feature vectors using principal component analysis or kernel discriminant analysis to generate a set of *M* basis vectors, each being of *N*-dimensions , wherein $M << N$, and

using the set of *M* basis vectors, mapping each *N*-dimensional feature vector into a respective *M*-dimensional feature vector;

(iv) using the *M*-dimensional feature vectors thus obtained as the basis for or as input to train a class model of the predetermined class; and

(v) storing the class model for use in classifying input data that matches the predetermined class.

12. (New) The computer-implemented method as claimed in claim 11, wherein the *M* basis vectors are the *M* most discriminating basis vectors that maximize between-class variance and minimize within-class variance.

13. (New) The computer-implemented method as claimed in claim 11 wherein each video sequence has a non-linear feature distribution.

14. (New) The computer-implemented method as claimed in claim 12 wherein each video sequence has a non-linear feature distribution.

15. (New) A system for generating class models from video sequences having one of a plurality of predetermined classes, said video sequences comprising a plurality of video and audio frames, wherein said system comprises:

feature extraction means for extracting a plurality of sets of characteristic visual feature vectors and characteristic audio feature vectors from respective video and audio

portions of a training set comprising a plurality of video sequences belonging to a predetermined class;

feature combining means for combining the plurality of sets of characteristic visual and audio feature vectors into a respective plurality of *N*-dimensional feature vectors specific to the predetermined class, said combining comprising normalizing and concatenating each of the visual feature vectors with corresponding audio feature vectors;

wherein the feature extraction means and the feature combining means being repeatably operable for each predetermined class, and wherein respective pluralities of *N*-dimensional feature vectors are thus obtained for each predetermined class;

processing means arranged in operation to:

analyze the pluralities of *N*-dimensional feature vectors for each predetermined class using principal component analysis or kernel discriminant analysis to generate a set of *M* basis vectors, each being of *N*-dimensions, wherein $M << N$; and

for any particular one of the predetermined classes:

use the set of *M* basis vectors, map each *N*-dimensional feature vector relating to the particular one of the predetermined classes into a respective *M*-dimensional feature vector; and

use the *M*-dimensional feature vectors thus obtained as the basis for or as input to train a class model of the particular one of the known classes; and

storing the class model for classifying input data that matches the particular one of the known classes.

16. (New) The system as claimed in claim 15, wherein the *M* basis vectors are the *M* most discriminating basis vectors that maximize between-class variance and minimize within-class variance.

17. (New) The system as claimed in claim 15, wherein each video sequence has a non-linear feature distribution.

18. (New) The system as claimed in claim 16, wherein each video sequence has a non-linear feature distribution.